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Summary of the 1994 Fish Trapping Operations on Suschona and Sylvester Creeks

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Website: *www.bchydro.bc.ca/environment/initiatives/pwcp/*

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ABSTRACT

Suschona and Sylvester Creeks, tributaries of the Nation River, are believed to be spawning locations of Arctic grayling *(Thymallus arcticus)*. The primary intent of this study was to assemble life history information for Arctic grayling in the Nation River watershed. Identification and enumeration of other fish species was also undertaken. Temporary wood framed, upstream and downstream, fish fences were used to capture fish. The fences were located near the mouth of Suschona and Sylvester Creeks, west of Mackenzie, British Columbia, between May 19 and June 14, 1994. No Arctic grayling were captured or observed. A total of 428 rainbow trout *(Oncorhynchus mykiss)*, 101 mountain whitefish *(Prosopium williamsoni)*, 15 longnose suckers *(Catostomus catostomus)*, 3 longnose dace *(Rhinichthys cataractoe)*, and 1 bull trout *(Salvelinus confluentus)*, were captured in Suschona Creek. The fence was not fish tight due to high water levels. No Arctic grayling are believed to have migrated past this fence during the study period. A total of 116 mountain whitefish, 107 longnose dace, 64 rainbow trout, 8 bull trout, 5 northern squawfish *(Ptychocheilus oregonensis)*, and 4 burbot *(Lota lota)* were captured in Sylvester Creek. At the fence location, Sylvester Creek water levels proved too high to effectively trap fish with the fence design and methodology used. The fence only spanned a portion of the entire stream width. Frequent high water events "topped" the fence and displaced panels, significantly reducing the capture efficiency of the fence. We were unable to determine if Arctic grayling used Suschona or Sylvester Creek for spawning.

TABLE OF CONTENTS

Page

ABSTRACT ii

TABLE OF CONTENTS iii

INTRODUCTION 1

METHODS AND MATERIALS 1
Study Area 1
Fences 1
Fish Sampling 5
Water Temperature 5

RESULTS 5
Suschona Creek 5
Sylvester Creek 7

DISCUSSION 9

REFERENCES 11

APPENDIX I (Suschona Creek Fish Data) .....

APPENDIX II (Sylvester Creek Fish Data) .....

INTRODUCTION

Suschona and Sylvester Creeks were the locations of a fish trapping study (May 14 to June 19, 1994) intended to gather life history information of Arctic grayling, and population status of other fish species present. The information gathered will be useful for management applications of all species encountered.

Suschona and Sylvester Creeks are tributaries of the Nation River which flows into Williston Reservoir (Figure 1). No discharge data is available, however both creeks would be characterised as small tributary streams with low summer flows (wetted widths less than 10 m and mean depths less than 30 cm). No fish presence surveys had previously been conducted on these streams. Area residents indicated that Suschona Creek historically contained an Arctic grayling population. Arctic grayling were captured in Nation River at the mouth of Sylvester Creek by Program staff during an Arctic grayling transplant program conducted in July 1994. Arctic grayling in the Nation River were found to be concentrated at the mouths of creeks. Suschona and Sylvester Creeks were chosen as study streams because it was believed Arctic grayling utilised them for spawning.

This data report provides a summary of the trapping operations on Suschona and Sylvester Creeks, 1994. Morphological data of all fish captured, an indication of species presence, and timing of species use of the creeks is contained in this report. A detailed analysis of the population dynamics of the species captured is not provided in this report. A complete analysis is anticipated in a future report.

METHODS AND MATERIALS

Study Area

Suschona and Sylvester Creeks are tributaries of the Nation River, 25 km north-west of Mackenzie, situated in north central British Columbia. The creeks enter the Nation River 75 km upstream from the mouth at Williston Reservoir (Figure 1). The Suschona Creek fence was situated approximately 2 km upstream from the mouth. The Sylvester Creek fence was situated approximately .75 km upstream from the mouth.

Fences

The fences were constructed by fastening together pre-made panels (0.86 m height) which were anchored into the substrate with 10 mm diameter rebar. The panels were built using 1/4 inch mesh galvanised metal hardware cloth attached to a 2.4 m by 0.86 m spruce 2 x 4 frame. Undermining of the fences was prevented by burying a thick black polyethylene sheet to act as an apron along the length of the fence. Sandbags were also used to further fortify the structure. The Suschona Creek fence spanned the entire creek width (Plates 1 and 2). The Sylvester Creek fence originated from the left bank and extended to a mid-channel bar (Plate 3 and 4) effectively fishing approximately 75% of the creek flow. Both fences were checked twice daily. At each site visit, the fences were cleaned of debris, and the captured fish were removed for sampling.

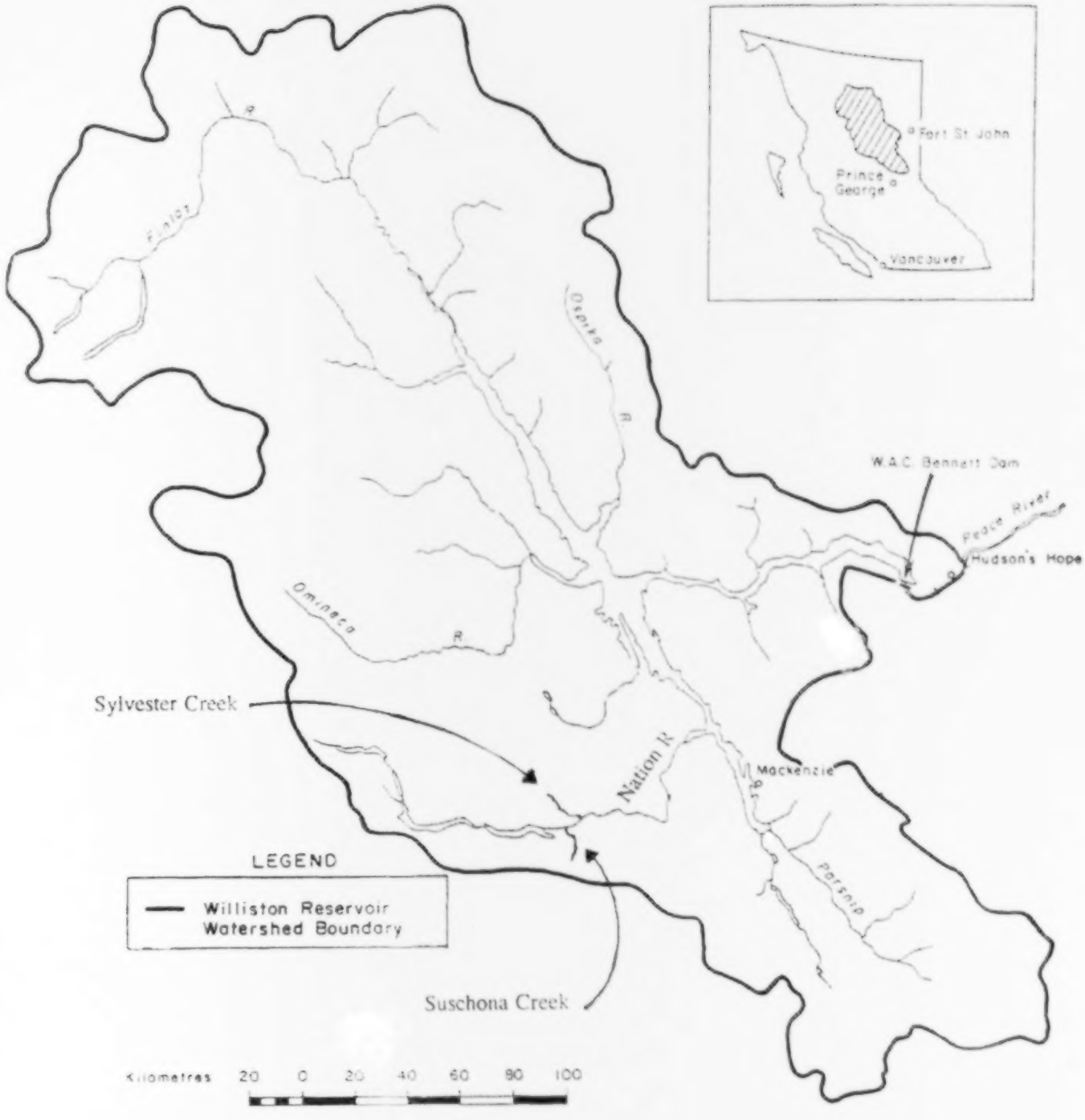

Figure 1. Study Area.

Plate 1: Downstream view of Suschona Creek fence. Upstream trap is in the foreground.

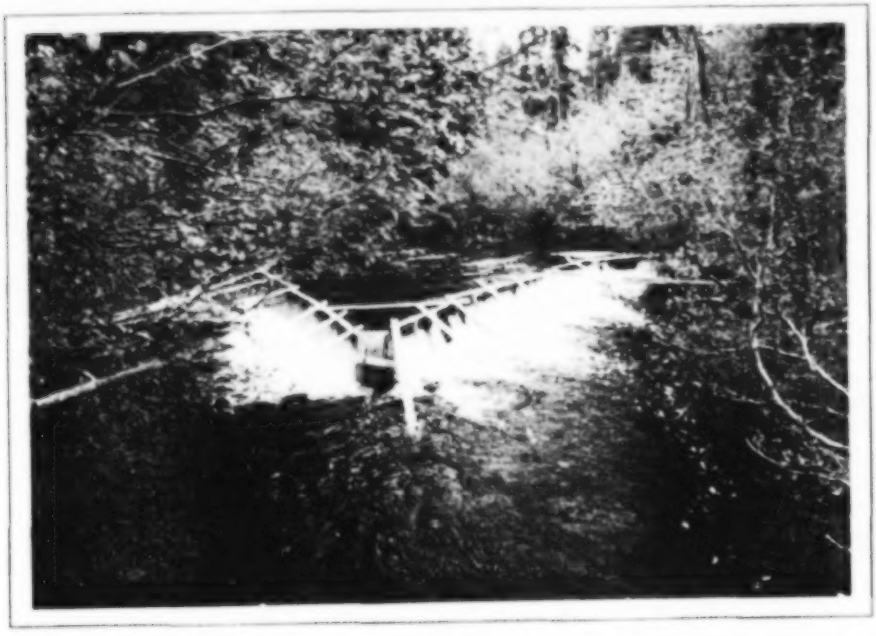

Plate 2: Upstream view of Suschona Creek fence. Eight inch black pipe runs from bottom of the "V" to the downstream trap. Note upstream trap entrance at top right of the fence.

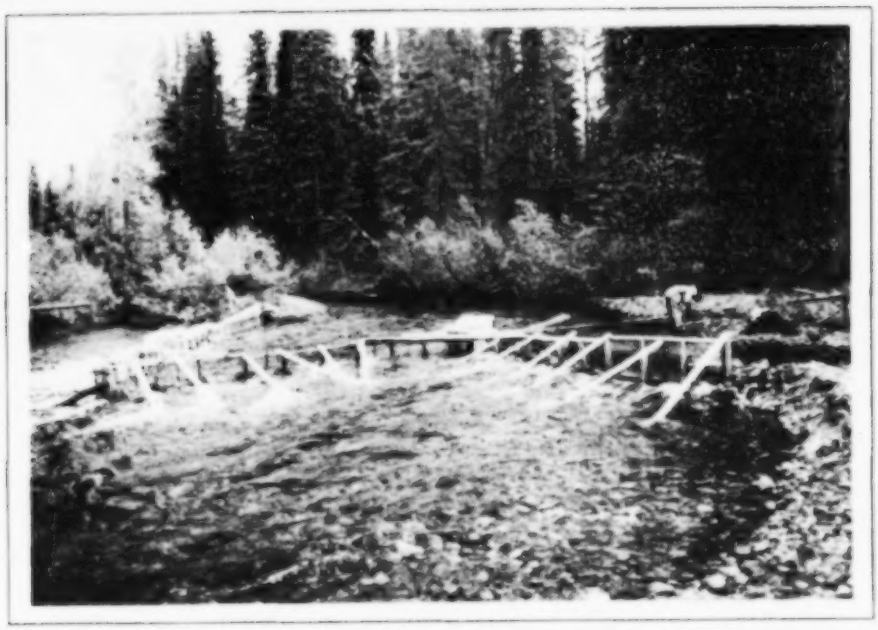

Plate 3: Upstream view of Sylvester Creek fence at low flow. Note upstream trap entrance in middle of the photograph.

Plate 4: Upstream view of Sylvester Creek fence at high flow. Eight inch black pipe runs from bottom of the "V" to the downstream trap in lower left of the photograph.

Fish Sampling

All captured fish were sorted by species, enumerated, and sampled. Fish were anaesthetised with a solution of one Alka seltzer tablet dissolved in 3 litres of fresh water. The fish were then measured for fork length, weight. Fork length were measured on a smolt board to an accuracy of 0.5 mm. Weights were measured on a digital balance to an accuracy of 0.1 g. Scale samples were obtained from all trout. Rainbow and bull trout larger than 22 cm were Floy tagged. Once a fish was sampled, a small caudal fin clip was applied to allow identification if it was recaptured. All mortalities were enumerated, recorded by species, sexed if possible, measured for fork length, weight, and scale samples were taken from trout.

Water Temperature

Water temperatures were monitored at the fence locations (Figure 1) with digital recording thermometers (Ryan Instruments TempMentor). The units are certified accurate to ± 0.3° C. The TempMentor units were set to record water temperatures at one hour intervals.

RESULTS

Suschona Creek

The Suschona Creek fence was operational from May 19 to June 14. Debris build up and high water events "topped" the fence on numerous occasions. High water events damaged panels of the fence on June 1, 13, and 15. Damage was repaired within eight hours except on June 15 when the fence was removed from the creek. With the previously noted exceptions, the Suschona Creek fence was in almost continuous operation for the 27 days of the Suschona Creek fish trapping project. No Arctic grayling were captured or observed during the study.

A total of 428 rainbow trout, 101 mountain whitefish, 15 longnose suckers, 3 longnose dace, and 1 bull trout were caught during fence operations (Appendix 1). Just over half the rainbow trout (52.3%) were captured in the upstream trap, while 204 (47.7 %) were captured in the downstream trap. The length-frequency distribution of fish migrating upstream and fish migrating downstream was almost identical. A summary and comparison of the rainbow trout captured in the upstream and downstream traps of Suschona Creek is presented in Table 1.

Table 1. A comparison of rainbow trout captured in the upstream and downstream traps.

	Upstream Trap (225)	Downstream Trap (203)
Minimum	64 mm - 3 g	54 mm - 2 g
Maximum	343 mm - 582 g	340 mm - 320 g
Mean	153 mm - 68 g	136 mm - 48 g

A length-frequency distribution for all fish captured in the Suschona Creek fence is presented in Figure 2.

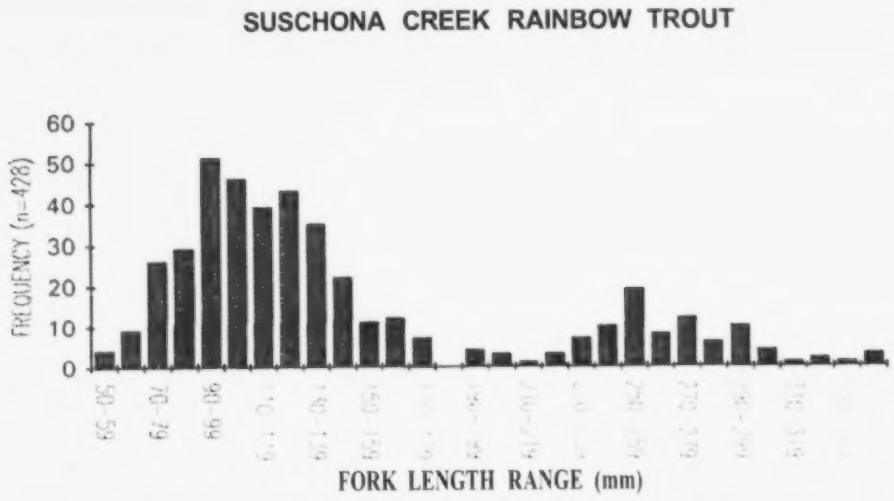

Figure 2. Length-frequency distribution of Suschona Creek rainbow trout.

Preliminary analysis of 28 scale samples indicate the presence of a "dwarf stream resident" population. A number of small (< 120 mm) rainbow trout were mature males at two years of age (Plate 5).

Plate 5: Two year old male (ripe) rainbow trout (120 mm) captured at Suschona Creek fence. Note milt on the anal fin.

No mountain whitefish were aged, however an interesting division is evident in the population encountered. Two obvious size classes exist, the first are all less than 113 mm in length, the second are all greater than 166 mm. The smaller fish were all captured in the downstream trap, while the larger fish were all migrating upstream.

The mean water temperature at Suschona Creek for the period of May 12 to June 14 was 9.3° C. The lowest temperature recorded was 5.6° C. Water temperature data from Suschona Creek is illustrated graphically in Figure 3.

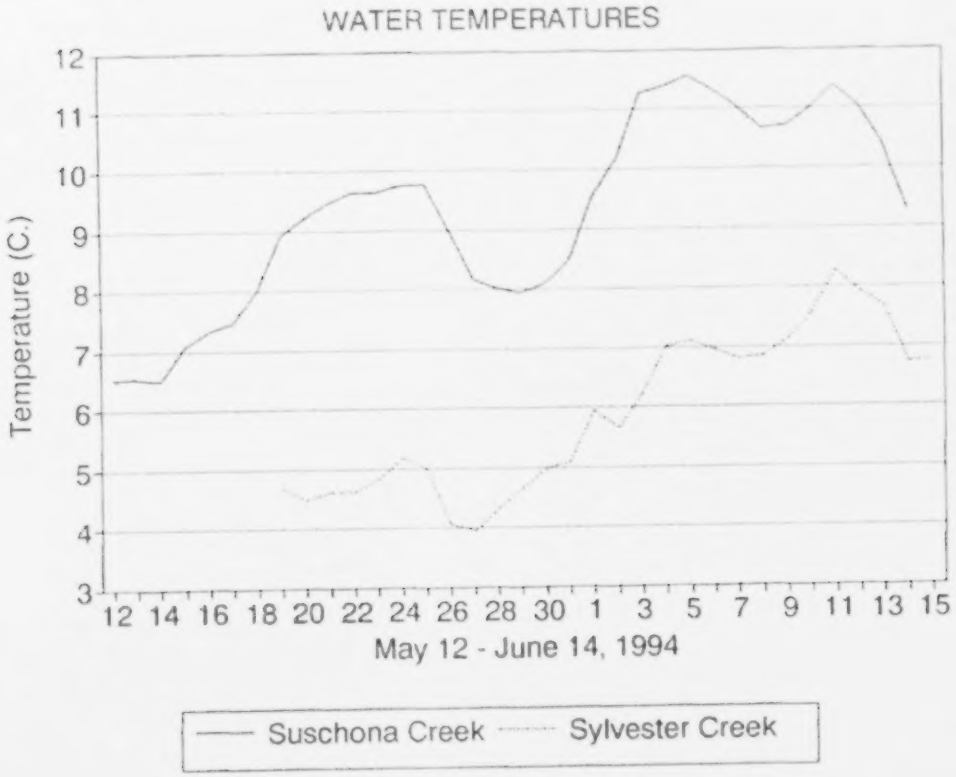

Figure 3. Mean water temperatures at the fence sites.

Sylvester Creek

The Sylvester Creek fence was operational from May 28 to June 14. Debris build up and high water events topped the fence on an almost daily basis. Cleaning of the fence relieved the built up head and enabled effective operation of the fence for an estimated 20 hours per day. High water events damaged and "blew out" panels on May 31, June 1, 6, 13, and 14. Damage was repaired within eight hours except on June 15 when the fence was removed from the creek. With the previously noted exceptions, the Sylvester Creek fence was in almost continuous operation for the 18 days of the Sylvester Creek fish trapping project. A total of 64 rainbow trout, 116 mountain whitefish, 107 longnose dace, 8 bull trout, 5 northern squawfish, and 4 burbot were caught during fence operations (Appendix II).

Forty eight (75%) of the 64 rainbow trout captured in the Sylvester Creek fence were migrating downstream, while 16 (25%) were migrating upstream. The length-frequency distribution of fish migrating upstream and fish migrating downstream was almost identical. A summary and comparison of rainbow trout captured in the upstream and downstream traps of Sylvester Creek is presented in Table 2.

Table 2. A comparison of rainbow trout captured in the upstream and downstream traps.

	Upstream Trap (16)	Downstream Trap (48)
Minimum	106 mm - 12 g	82 mm - 6 g
Maximum	333 mm - 340 g	305 mm - 258 g
Mean	195 mm - 98 g	164 mm - 59 g

A length-frequency distribution for all fish captured in the Sylvester Creek fence is presented in Figure 4. The scale is identical to the Suschona Creek graph to aid comparison.

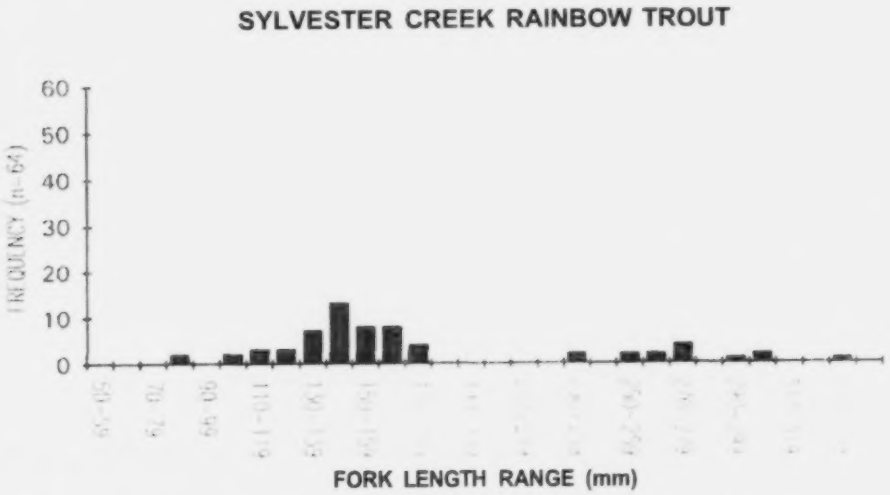

Figure 4. Length-frequency distribution of Sylvester Creek rainbow trout.

The scale samples have not been aged from Sylvester Creek fish. Two small (<150 mm) mature male rainbow trout were captured indicating a "dwarf stream resident" population is present as well as larger rainbow migrating from the Nation River to spawn.

No mountain whitefish were aged, however two obvious size classes exist. Mountain whitefish smaller than 130 mm were all migrating downstream, while all mountain whitefish larger than 157 mm were migrating upstream.

A large percentage of the total fish captured (35%) were longnose dace. The longnose dace ranged in size from 74 mm to 124 mm. Six of the 107 captured were identified as ripe females. All the longnose dace were migrating downstream. Peak migration occurred in the low light conditions of evening-early morning as the majority of longnose dace were sampled in the morning site visit.

The mean water temperature at Sylvester Creek for the period of May 19 to June 15 was 5.9° C. The lowest temperature recorded was 2.9° C. Water temperature data from Sylvester Creek is illustrated graphically in Figure 5. The scale of the graph is identical to the water temperature graph for Suschona Creek (Figure 3) to aid comparison.

A snorkel survey was performed on Sylvester Creek on June 12, 1994. The site selected was at a road crossing approximately 6 km upstream from the fence location. Approximately 500 m of stream was surveyed. No evidence of Arctic grayling presence was observed.

DISCUSSION

Although the integrity of the Suschona Creek fence was often compromised due to high water levels, we believe no Arctic grayling were present in Suschona Creek during the study period. The Sylvester Creek fence only spanned a portion of the creek, and was compromised by over the fence water levels, and "blown out" panels too often to confidently predict presence or absence of Arctic grayling. The lack of grayling presence at Suschona Creek, coupled with the lack of presence at the Sylvester fence, and the results of a snorkel survey suggest grayling presence in Sylvester Creek at the time of survey was doubtful.

The temperature at which spawning occurs is identified by Northcote (1993) as approximately 4° C. Butcher et al. (1981) identified early to late May as the spawning period for Arctic grayling in tributaries of the Liard-Fort Nelson system. In a study examining the effects of the proposed McGregor River Diversion in north-eastern B.C. (Anonymous 1978b), all grayling had spawned prior to May 28. This information would suggest that any upstream migration of spawning Arctic grayling was missed by this study as the fences were not operational until late May, and water temperatures were higher than 4° C. It is possible that post spawners remained in the tributaries until after the fences were removed in mid-June, and therefore were not captured in the downstream traps of the two fences. In Adsett Creek, a north-eastern B.C. tributary of the Prophet River, post spawners remained in the spawning creek until migrating out to over-wintering habitat in autumn (Stewart et. al. 1982).

At least two populations of rainbow trout appear to be present. The two distinguishable populations are separated by differing life history strategies. Preliminary analysis of 28 rainbow trout scale samples indicate the presence of a "dwarf stream resident" population. A number of small (< 120 mm) rainbow trout were mature males at two years of age. This life history strategy of residing in small headwater streams, maturing at an early age, and dwarfing is similar to that identified for bull trout by McPhail and Baxter (1995). The larger fish captured may represent a separate population of rainbow trout which migrated from the Nation River to spawn in the smaller tributary streams in a fluvial-adfluvial life history strategy. The degree of opportunistic crossing over of these life histories (i.e. dwarfed stream resident fish leaving the system and experiencing a sudden increased growth rate) can only be determined by back calculating size at age from the scale samples. It is unknown if the offspring from the fluvial-adfluvial trout migrate out of the tributary, or if a portion remains as stream residents.

Mountain whitefish were numerous in both systems, and exhibited the same characteristic of the smaller fish migrating downstream, and the larger fish migrating upstream. No scale samples were taken for analysis, however such an analysis would undoubtedly show an age class distinction between these two groups.

Longnose dace were very abundant in Sylvester Creek, and virtually non-existent in Suschona Creek. The habitat of Sylvester Creek is more suited to the requirements of this species. "The longnose dace is characteristic of clean, swiftly flowing, gravel or bouldery streams, at times inhabiting very turbulent waters" (Scott and Crossman 1973). Suschona Creek was generally slower flowing, and had a higher degree of organic and "fines" substrate composition. The suspected early-June timing of spawning is consistent with the limited literature available.

This study was a first attempt to gather detailed Arctic grayling biological information from the Nation River. It was hoped to extrapolate, to some degree, the data gained here, and apply the knowledge to similar systems in the Williston watershed. The results obtained from this study indicate that Arctic grayling were likely not present to be captured at the time of fence operations. The fact that large concentrations (>50 per km.) were found just below the mouth of Sylvester Creek in July of 1993 (unpublished data Peace/Williston Compensation Program) suggests that Sylvester Creek is utilised by Arctic grayling at some point in their life history.

The Nation River Arctic grayling population provides an excellent opportunity to increase our extremely limited knowledge of local Arctic grayling biology. Further studies of the Nation River and its tributaries, including fencing, habitat evaluation, electroshocking, and snorkel surveys are required to understand the population dynamics of Arctic grayling. Before such basic knowledge is obtained the likelihood of success of management techniques and enhancement techniques will remain unknown.

REFERENCES

Anonymous. 1978b. Report on environmental studies for the McGregor River diversion project. Vol. 1-4. Prepared by Reid, Crowther and Partners Ltd. for B.C. Hydro and Power Authority.

Butcher, G.A., J.R. Ellis, and R.B. Davidson. 1981. Aspects of the life history of Arctic grayling *(Thymallus arcticus)* in the Liard River drainage, British Columbia. Prov. B.C. Aquat. Studies Br., Victoria, B.C., working Rep. 39p.

McPhail, J.D., and J. Baxter. 1995. A review of bull trout *(Salvelinus confluentus)* life history and habitat use in relation to compensation and improvement opportunities. Prepared for the Habitat Management Division of the Department of Fisheries and Oceans, Vancouver. 47p.

Northcote, T.G. 1993. A review of management and enhancement options for the Arctic grayling *(Thymallus arcticus)* with special reference to the Williston Reservoir watershed in British Columbia. British Columbia Ministry of Environment, Lands and Parks, Fisheries Management Report No. 101:69p.

Scott, W.B., and E.J. Crossman. 1973. Freshwater fishes of Canada. Fish. Res. Board Can. Bull. 184:966p.

Stewert, R.J., R.E. McLenehan, J.D. Morgan, and W.R. Olmsted. 1982. Ecological studies of Arctic grayling *(Thymallus arcticus)*, Dolly Varden char *(Salvelinus malma)*, and mountain whitefish *(Prosopium williamsoni)* in the Liard River drainage, B.C. E.V.S. Consultants Ltd. for Westcoast Transmission Company Ltd. and Foothills Pipe Lines (North B.C.) Ltd., 99p.

APPENDIX I

(Suschona Creek Fish Data)

SUCHONA CREEK FENCE OPERATIONS, 1994									
SPECIES	LENGTH	WEIGHT	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
CODE	mm	gms							
DV	218	94.4		5	94	6	2	u/s trap	
LNC	98				94	5	24	d/s trap	no weights...dead batteries
LNC	110	14.6			94	6	4	d/s trap	
LNC	119	17.2			94	6	2	d/s trap	
LSU	110	13.4			94	6	13	u/s trap	
LSU	128				94	5	23	d/s trap	
LSU	130	22.4			94	5	29	d/s trap	
LSU	138	28.1			94	6	11	u/s trap	Definitely LSU, sacrificed for id.
LSU	140	33.3			94	6	9	u/s trap	
LSU	147				94	5	23	d/s trap	
LSU	162	44.7			94	6	5	u/s trap	
LSU	163	52.3			94	6	3	u/s trap	
LSU	165	45.2			94	6	3	u/s trap	
LSU	169	55.5			94	6	3	u/s trap	
LSU	177	114			94	5	19	u/s trap	
LSU	186	69.2			94	5	24	u/s trap	
LSU	212	103.8			94	6	6	u/s trap	
LSU	215	105.7			94	6	6	u/s trap	
LSU	216	102.7	m-ripe		94	6	8	d/s trap	
MW	84	5.2			94	5	26	d/s trap	
MW	85	5.5			94	5	27	d/s trap	
MW	86	5.8			94	6	4	d/s trap	
MW	87	5.9			94	6	4	d/s trap	
MW	88	6.7			94	6	5	d/s trap	
MW	89	6.7			94	6	4	d/s trap	
MW	89	6.8			94	6	6	d/s trap	
MW	90	6.4			94	6	4	d/s trap	
MW	91	7.2			94	6	4	d/s trap	
MW	91	7.1			94	6	5	d/s trap	
MW	92	6.6			94	6	4	d/s trap	
MW	92	7			94	6	4	d/s trap	
MW	93	7.4			94	6	4	d/s trap	
MW	93	7.6			94	6	5	d/s trap	
MW	93	7.2			94	6	5	d/s trap	
MW	94	8.3			94	6	4	d/s trap	
MW	94	7.1			94	6	4	d/s trap	
MW	94	7.8			94	6	6	d/s trap	
MW	95	8.4			94	6	2	d/s trap	
MW	95	7.8			94	6	4	d/s trap	
MW	96	10.7			94	5	27	u/s trap	
MW	96	8.1			94	6	4	d/s trap	
MW	96	7.9			94	6	6	u/s trap	
MW	96	8.6			94	6	6	d/s trap	
MW	97	9.3			94	6	2	d/s trap	
MW	97	8.2			94	6	3	d/s trap	
MW	98	9.1			94	6	5	d/s trap	
MW	99	8.6			94	5	28	d/s trap	
MW	99	8.8			94	6	4	d/s trap	
MW	99	8.5			94	6	7	d/s trap	
MW	100	9.2			94	6	4	d/s trap	
MW	100	9.1			94	6	4	d/s trap	
MW	100	7.9			94	6	4	d/s trap	
MW	100	10.7			94	6	6	d/s trap	
MW	101	9.6			94	5	30	d/s trap	
MW	103	10.2			94	5	25	d/s trap	
MW	103	9.7			94	6	4	d/s trap	
MW	103	10.7			94	6	7	d/s trap	
MW	104	10.1			94	6	4	d/s trap	
MW	104	10.5			94	6	6	d/s trap	
MW	104	9.8			94	6	6	d/s trap	
MW	105	11			94	5	28	d/s trap	
MW	105	9.7			94	6	2	d/s trap	
MW	105	11.1			94	6	4	d/s trap	
MW	106	11.4			94	5	28	d/s trap	
MW	106	11.8			94	6	2	d/s trap	
MW	107	10			94	6	2	d/s trap	
MW	107	11.4			94	6	3	d/s trap	
MW	108	10.9			94	6	4	d/s trap	
MW	109	12			94	6	6	d/s trap	

SUCHONA CREEK FENCE OPERATIONS, 1994									
SPECIES	LENGTH	WEIGHT	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
CODE	mm	gms							
MW	110	11.4			94	6	2	d/s trap	
MW	110	12.4			94	6	4	d/s trap	
MW	111	13			94	6	5	d/s trap	
MW	111	11.7			94	6	7	d/s trap	
MW	113	10.5			94	6	6	d/s trap	
MW	166	57			94	5	23	u/s trap	
MW	172	53.9			94	5	31	u/s trap	
MW	173	53.3			94	6	4	u/s trap	
MW	178	66.3			94	5	24	u/s trap	
MW	179	55.8			94	6	12	u/s trap	
MW	180	59.4			94	5	24	u/s trap	
MW	180	53.6			94	6	5	u/s trap	
MW	183	56.4			94	6	5	u/s trap	
MW	186	66.7			94	6	12	u/s trap	
MW	188	57			94	5	23	u/s trap	
MW	188	67.2			94	5	24	u/s trap	
MW	188	62.7			94	6	3	u/s trap	
MW	190	57			94	5	23	u/s trap	
MW	191	69.8			94	6	10	u/s trap	
MW	194	28			94	5	23	u/s trap	
MW	195	72.6			94	5	24	u/s trap	
MW	198	85.6			94	6	6	u/s trap	
MW	199	75.5			94	5	26	u/s trap	
MW	200	57			94	5	23	u/s trap	
MW	201	72			94	5	28	u/s trap	
MW	201	86.6			94	6	12	u/s trap	
MW	202	81.5			94	5	26	u/s trap	
MW	202	85			94	6	12	u/s trap	
MW	203				94	5	24	d/s trap	no weights...dead batteries
MW	206	91.1			94	5	24	u/s trap	
MW	207	85			94	5	21	u/s trap	
MW	207	72.1			94	5	24	u/s trap	
MW	208	84			94	6	11	u/s trap	
MW	209	96.2			94	5	24	u/s trap	
MW	210	94.6			94	6	3	u/s trap	
MW	213	108.6			94	6	5	u/s trap	
MW	215	103			94	5	24	u/s trap	
MW	217	97.2			94	5	24	u/s trap	
MW	218	128			94	6	10	u/s trap	
MW	220	113.5			94	5	25	u/s trap	
MW	220	99.8			94	6	12	u/s trap	
MW	222	110.1			94	5	24	u/s trap	
MW	224	112			94	5	24	u/s trap	
MW	224	117			94	6	3	u/s trap	
MW	228	113			94	5	23	u/s trap	
MW	230	127.8			94	5	29	u/s trap	
MW	230	120.4			94	6	12	u/s trap	
MW	234	137.7			94	5	30	u/s trap	
MW	234	141.7			94	6	11	u/s trap	
MW	235	85			94	5	23	u/s trap	
MW	265	198.2			94	5	24	u/s trap	
RB	54				94	5	25	d/s trap	no weights...dead batteries ***mort ***
RB	54	1.7			94	5	30	d/s trap	
RB	57	2			94	6	5	d/s trap	mort. on fence
RB	59	2.3		1	94	5	30	d/s trap	
RB	60	2.1		1	94	5	31	d/s trap	
RB	61	2.3		1	94	6	5	d/s trap	
RB	64			1	94	5	19	u/s trap	
RB	65	2.7			94	6	4	d/s trap	
RB	65	2.6			94	6	7	u/s trap	
RB	66	3.1			94	6	5	d/s trap	
RB	67	2.9			94	6	11	u/s trap	
RB	68	3.3			94	6	2	d/s trap	
RB	68	3.2			94	6	9	u/s trap	
RB	70	3.6			94	6	5	d/s trap	
RB	70	3.2			94	6	7	u/s trap	
RB	70	3.2			94	6	11	u/s trap	
RB	71	3.6			94	6	5	u/s trap	
RB	72				94	5	24	d/s trap	no weights...dead batteries

SUCHONA CREEK FENCE OPERATIONS, 1994									
SPECIES	LENGTH	WEIGHT	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
CODE	mm	gms							
RB	72	3.8			94	6	9	u/s trap	
RB	72	3.7			94	6	13	u/s trap	
RB	72	?			94	6	13	u/s trap	No weight, balance not working
RB	73	4			94	6	6	u/s trap	
RB	73	4			94	6	7	u/s trap	
RB	73	4.2			94	6	9	u/s trap	
RB	73	3.6			94	6	9	u/s trap	
RB	73	4			94	6	10	u/s trap	
RB	74	4.2			94	6	5	d/s trap	
RB	74	4.2			94	6	7	u/s trap	
RB	74	4.3			94	6	9	u/s trap	
RB	74	?			94	6	14	u/s trap	No weight, balance not working
RB	75	4.4			94	6	8	u/s trap	
RB	75	4.2			94	6	12	u/s trap	
RB	76	4.2		1	94	6	6	u/s trap	
RB	76	4.4			94	6	6	u/s trap	
RB	76	4.3			94	6	8	u/s trap	
RB	77	5.2			94	6	2	d/s trap	mort.
RB	77	4.6			94	6	12	u/s trap	
RB	78	5.1			94	6	4	u/s trap	
RB	79	4.6			94	6	4	u/s trap	
RB	80	5.6			94	5	31	d/s trap	
RB	80	4.6			94	6	10	u/s trap	
RB	81	5.5			94	5	25	d/s trap	
RB	81	5.6			94	6	5	u/s trap	
RB	81	8.1			94	6	5	d/s trap	
RB	81	5.4		1	94	6	5	d/s trap	
RB	82	6.2			94	6	5	d/s trap	
RB	82	5.8			94	6	6	u/s trap	
RB	82	5.9			94	6	7	u/s trap	
RB	82	5.4			94	6	8	u/s trap	
RB	82	5.6			94	6	8	u/s trap	
RB	83	7.5			94	5	24	u/s trap	
RB	83				94	5	25	d/s trap	no weights...dead batteries
RB	83	5.6			94	6	11	u/s trap	
RB	83	?			94	6	13	d/s trap	No weight, balance not working
RB	84	5.8			94	6	7	u/s trap	
RB	85			2	94	5	22	d/s trap	
RB	86				94	5	23	d/s trap	
RB	86	7.9			94	5	24	u/s trap	
RB	87	7.4			94	5	28	d/s trap	
RB	87	7			94	6	6	u/s trap	
RB	87	6.5			94	6	12	u/s trap	
RB	88	6.7			94	5	27	d/s trap	
RB	88	7.7			94	6	4	d/s trap	
RB	88	7.2			94	6	6	u/s trap	
RB	89				94	5	23	d/s trap	
RB	89	7.6			94	5	29	d/s trap	
RB	89	6.9			94	6	6	u/s trap	
RB	89	7.7			94	6	6	d/s trap	
RB	90				94	5	23	d/s trap	
RB	90				94	5	23	d/s trap	
RB	90	7.9			94	5	28	d/s trap	
RB	90	6.9			94	5	31	d/s trap	
RB	90	7.4		1	94	6	6	u/s trap	
RB	90	7.5			94	6	6	u/s trap	
RB	91				94	5	22	d/s trap	
RB	91				94	5	23	d/s trap	
RB	91	8.3			94	5	24	u/s trap	
RB	91	8.1			94	5	28	d/s trap	
RB	91	7.1			94	6	5	u/s trap	
RB	91	7.6			94	6	7	u/s trap	
RB	92	7.7			94	6	2	d/s trap	
RB	92	8.2			94	6	3	u/s trap	
RB	92	7.5			94	6	5	u/s trap	
RB	92	8.5			94	6	8	d/s trap	
RB	93	8.6			94	5	26	d/s trap	
RB	93	7.9			94	5	27	d/s trap	
RB	93	8.3			94	5	27	d/s trap	

SUCHONA CREEK FENCE OPERATIONS, 1994

SPECIES CODE	LENGTH mm	WEIGHT gms	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
RB	93	7.9			94	5	29	d/s trap	
RB	93	8.3			94	6	4	u/s trap	
RB	93	8.2			94	6	5	u/s trap	
RB	93	7.7			94	6	5	u/s trap	
RB	93	8.5			94	6	7	u/s trap	
RB	94				94	5	19	u/s trap	
RB	94				94	5	22	u/s trap	
RB	94				94	5	22	d/s trap	
RB	94	8.1			94	6	5	d/s trap	
RB	94	9.4			94	6	11	u/s trap	
RB	95	11			94	5	24	d/s trap	mortality
RB	95	8.6			94	5	25	u/s trap	
RB	95	9.8			94	5	28	d/s trap	
RB	95	9.5			94	5	28	d/s trap	
RB	95	8.3			94	5	30	d/s trap	
RB	95	8.8			94	6	3	u/s trap	
RB	95	8.5			94	6	6	d/s trap	
RB	96				94	5	24	d/s trap	no weights...dead batteries
RB	96	10			94	6	2	d/s trap	
RB	96	9.3			94	6	7	u/s trap	
RB	96	9.4			94	6	12	d/s trap	
RB	97	9.9			94	5	27	d/s trap	
RB	97	9.8			94	5	30	d/s trap	
RB	97	9.5			94	6	3	d/s trap	
RB	97	9.7			94	6	5	d/s trap	
RB	98				94	5	21	u/s trap	
RB	98				94	5	22	d/s trap	
RB	98	11.3			94	5	24	u/s trap	mortality
RB	98	9.5			94	5	27	d/s trap	
RB	98	10.3			94	5	28	d/s trap	
RB	98	10.5			94	6	1	d/s trap	
RB	99	9.6			94	5	27	d/s trap	
RB	100		m-ripe		94	5	24	d/s trap	no weights...dead batteries
RB	100	9.3			94	5	26	u/s trap	
RB	100	10.6			94	5	26	d/s trap	
RB	100	10			94	5	28	d/s trap	
RB	100	11.2			94	5	29	d/s trap	
RB	100	10			94	6	5	u/s trap	
RB	100	10.2			94	6	5	d/s trap	
RB	100	10.2			94	6	7	u/s trap	
RB	101	10.6			94	6	4	d/s trap	
RB	102	28		2	94	5	19	u/s trap	
RB	102		m-ripe		94	5	22	u/s trap	
RB	102	11.4			94	5	29	d/s trap	
RB	102	13			94	5	31	d/s trap	
RB	102	10.7			94	6	3	d/s trap	
RB	102	11.1			94	6	3	d/s trap	
RB	102	11.1			94	6	3	u/s trap	
RB	103				94	5	22	u/s trap	
RB	103	11.1			94	5	28	d/s trap	
RB	103	11.4			94	5	30	d/s trap	
RB	103	11.5	m-ripe		94	5	31	d/s trap	photograph taken
RB	103	11.2			94	5	31	d/s trap	
RB	103	9.7			94	6	1	d/s trap	
RB	103	11.2			94	6	2	u/s trap	
RB	103	11			94	6	2	d/s trap	
RB	103	11			94	6	10	u/s trap	
RB	103	12.3			94	6	12	d/s trap	
RB	104				94	5	23	u/s trap	
RB	104		m-ripe		94	5	24	d/s trap	no weights...dead batteries
RB	104	10.6			94	5	25	u/s trap	
RB	104	13.3		2	94	5	29	d/s trap	
RB	104	11.4			94	5	29	d/s trap	
RB	104	12.3	m-ripe		94	6	6	u/s trap	
RB	104	12.6			94	6	6	d/s trap	
RB	105	11.8			94	5	29	d/s trap	
RB	106	11.5			94	5	29	d/s trap	
RB	106	13.1			94	6	6	u/s trap	
RB	106	?			94	6	14	u/s trap	No weight, balance not working

SUCHONA CREEK FENCE OPERATIONS, 1994									
SPECIES	LENGTH	WEIGHT	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
CODE	mm	gms							
RB	107				94	5	21	u/s trap	
RB	107	14.2			94	5	24	d/s trap	
RB	107	12.5		2	94	5	31	d/s trap	
RB	107	13.4			94	6	4	u/s trap	
RB	107	12.6	m-ripe		94	6	5	u/s trap	
RB	108	15			94	6	4	u/s trap	
RB	108	13.4			94	6	5	d/s trap	
RB	108	9.4		2	94	6	8	u/s trap	
RB	109	14.5		2	94	6	5	u/s trap	
RB	110	13.4	m-ripe		94	6	5	u/s trap	
RB	110	15	m-ripe		94	6	5	u/s trap	
RB	110	13.3			94	6	11	u/s trap	
RB	111		m-ripe		94	5	23	u/s trap	
RB	111				94	5	23	d/s trap	
RB	111	14.5			94	5	29	u/s trap	
RB	111	15.1			94	5	31	d/s trap	
RB	111	13.8			94	6	3	u/s trap	
RB	112				94	5	24	d/s trap	no weights...dead batteries
RB	112	14.8			94	5	28	d/s trap	
RB	112	14.6			94	6	5	d/s trap	
RB	113	17.3			94	6	4	d/s trap	
RB	113	15.9			94	6	4	d/s trap	
RB	113	13.3			94	6	11	u/s trap	
RB	113	?			94	6	13	u/s trap	No weight, balance not working
RB	114	15.9			94	5	29	d/s trap	
RB	114	15.4			94	6	1	d/s trap	
RB	114	14.9			94	6	3	u/s trap	
RB	115				94	5	23	d/s trap	
RB	115				94	5	25	d/s trap	no weights...dead batteries
RB	115	16.7			94	5	26	d/s trap	
RB	115	15.6			94	5	26	d/s trap	
RB	115	16			94	5	28	d/s trap	
RB	115	17.1			94	5	30	d/s trap	
RB	115	14.8			94	6	1	d/s trap	
RB	115	15.9			94	6	1	d/s trap	
RB	115	15.1			94	6	5	d/s trap	
RB	116		m-ripe		94	5	23	u/s trap	
RB	116	18.2			94	5	28	d/s trap	
RB	116	15.5			94	6	3	d/s trap	
RB	116	14			94	6	12	d/s trap	
RB	117				94	5	21	u/s trap	
RB	117				94	5	25	d/s trap	no weights...dead batteries
RB	117	14.4			94	5	28	d/s trap	
RB	118				94	5	22	d/s trap	
RB	119				94	5	21	u/s trap	
RB	119		m-ripe		94	5	23	u/s trap	
RB	119	21.9			94	6	1	d/s trap	
RB	119	17.2			94	6	3	d/s trap	
RB	120		m-ripe	2	94	5	22	u/s trap	
RB	120				94	5	24	d/s trap	no weights...dead batteries
RB	120	18.3			94	5	26	d/s trap	
RB	120	16.5	m-ripe		94	5	29	u/s trap	
RB	120	17			94	6	1	d/s trap	
RB	120	20.4			94	6	5	u/s trap	
RB	121				94	5	23	d/s trap	
RB	121				94	5	23	d/s trap	
RB	121	18.4	m-ripe		94	5	24	u/s trap	
RB	121	193			94	6	1	d/s trap	
RB	121	173			94	6	1	d/s trap	
RB	122		m-ripe		94	5	23	u/s trap	
RB	122				94	5	23	d/s trap	
RB	122	18.8			94	6	3	d/s trap	
RB	122	17.8			94	6	3	d/s trap	
RB	123				94	5	21	u/s trap	
RB	123				94	5	22	d/s trap	
RB	123		m-ripe		94	5	23	u/s trap	
RB	123	18.9			94	5	26	d/s trap	
RB	123	18.6			94	6	3	u/s trap	
RB	123	19.2	m-ripe		94	6	4	u/s trap	

SUCHONA CREEK FENCE OPERATIONS, 1994									
SPECIES	LENGTH	WEIGHT	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
CODE	mm	gms							
RB	123	20.5			94	6	5	u/s trap	
RB	124	21.2	m-ripe		94	5	25	u/s trap	
RB	124	20.1			94	5	29	d/s trap	
RB	124	18.7			94	6	4	u/s trap	
RB	124	20.5			94	6	5	d/s trap	
RB	125				94	5	24	d/s trap	no weights...dead batteries
RB	125	18.9			94	5	26	d/s trap	
RB	125	19.4	m-ripe	3	94	6	1	u/s trap	
RB	125	18.3	m-ripe		94	6	4	u/s trap	
RB	126	21.9			94	5	26	d/s trap	
RB	126	22.3			94	6	11	u/s trap	Ripe Male
RB	126	22.1			94	6	12	u/s trap	
RB	127		m-ripe		94	5	25	u/s trap	no weights...dead batteries
RB	127	21			94	5	29	d/s trap	
RB	127	20.9		2	94	6	3	d/s trap	
RB	127	21.4			94	6	3	d/s trap	
RB	127	22			94	6	5	d/s trap	
RB	128		m-ripe		94	5	22	u/s trap	
RB	128		m-ripe		94	5	23	u/s trap	
RB	128	23.6			94	5	27	u/s trap	
RB	129	22.4			94	5	28	d/s trap	
RB	129	22.2			94	6	4	d/s trap	
RB	130		m-ripe		94	5	23	u/s trap	
RB	130	23.4			94	5	27	d/s trap	
RB	130	22.4			94	5	29	d/s trap	
RB	130	22.8			94	6	4	d/s trap	
RB	131				94	5	21	u/s trap	
RB	131	23.8			94	5	26	d/s trap	
RB	131	24			94	6	1	u/s trap	
RB	132				94	5	25	d/s trap	no weights...dead batteries
RB	132	21.4			94	6	1	d/s trap	
RB	133				94	5	23	d/s trap	
RB	133	22.7			94	6	4	u/s trap	
RB	133	24.9			94	6	4	u/s trap	
RB	133	24.5			94	6	5	u/s trap	
RB	133	24		3	94	6	13	u/s trap	
RB	134		m-ripe		94	5	22	u/s trap	
RB	134				94	5	23	d/s trap	
RB	134	27.3			94	5	26	d/s trap	
RB	134	24.9	m-ripe		94	6	3	u/s trap	
RB	135				94	5	21	u/s trap	
RB	135		m-ripe		94	5	23	u/s trap	
RB	135		m-ripe		94	5	24	d/s trap	no weights...dead batteries
RB	135	24.3			94	5	27	d/s trap	
RB	135	25.2		2	94	6	4	d/s trap	
RB	135	28.1			94	6	13	u/s trap	
RB	136				94	5	22	d/s trap	
RB	136	27.7			94	6	3	d/s trap	
RB	136	24.9			94	6	7	d/s trap	
RB	137		m-ripe	4	94	5	23	u/s trap	
RB	137				94	5	25	d/s trap	no weights...dead batteries
RB	137	27.6			94	5	28	d/s trap	
RB	138	26.6			94	5	26	d/s trap	
RB	138	30.9			94	5	29	d/s trap	
RB	139				94	5	21	u/s trap	
RB	139	27.1			94	5	26	d/s trap	
RB	139	28.6			94	6	13	u/s trap	
RB	140	26.6			94	6	1	u/s trap	
RB	140	27	m-ripe		94	6	3	u/s trap	
RB	142		m-ripe		94	5	23	u/s trap	
RB	142	28			94	5	29	d/s trap	
RB	142	28.7			94	6	1	d/s trap	
RB	143		m-ripe		94	5	24	u/s trap	
RB	144				94	5	25	d/s trap	no weights...dead batteries
RB	144	31.3	m-ripe		94	5	25	u/s trap	
RB	144	28.9	m-ripe		94	6	1	u/s trap	
RB	144	29	m-ripe		94	6	5	u/s trap	recapture...no samples taken
RB	144	28.3			94	6	5	d/s trap	
RB	145		f		94	5	23	u/s trap	

SUCHONA CREEK FENCE OPERATIONS, 1994.									
SPECIES	LENGTH	WEIGHT	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
CODE	mm	gms							
RB	145	30.2	m-ripe		94	6	3	u/s trap	
RB	146	31.6			94	6	1	u/s trap	
RB	146	27.9			94	6	3	u/s trap	
RB	146	31.5			94	6	3	u/s trap	
RB	147	28.9	m-ripe		94	6	1	u/s trap	
RB	147	31.4	m-ripe		94	6	1	u/s trap	
RB	147	34.5		2	94	6	4	d/s trap	
RB	148				94	5	23	d/s trap	
RB	148	33.8			94	5	26	d/s trap	
RB	148	31.8			94	5	30	u/s trap	
RB	150		m-ripe		94	5	23	u/s trap	
RB	151	36.7		2	94	5	26	d/s trap	
RB	151	41			94	6	7	d/s trap	fence mort
RB	152				94	5	25	d/s trap	no weights...dead batteries
RB	152	36.2	m-ripe		94	6	2	u/s trap	
RB	152	34.3			94	6	9	u/s trap	
RB	153	39.1			94	5	31	d/s trap	
RB	157	40.4			94	5	31	d/s trap	
RB	157	44.1			94	6	2	u/s trap	
RB	159	35.4			94	6	2	u/s trap	
RB	159	45.4		3	94	6	3	u/s trap	
RB	160	45.6			94	6	4	d/s trap	
RB	161	44.7			94	6	10	u/s trap	
RB	162	47.5			94	5	29	d/s trap	
RB	162	37.4			94	6	1	u/s trap	
RB	163		m-ripe		94	5	23	u/s trap	
RB	163	32.8	m-ripe	3	94	6	4	u/s trap	
RB	163	39.7			94	6	5	u/s trap	
RB	165				94	5	23	d/s trap	
RB	168	38.1			94	6	4	u/s trap	
RB	168	46.6			94	6	4	u/s trap	
RB	168	40.2			94	6	8	u/s trap	
RB	169	44.5	m-ripe	5	94	6	5	u/s trap	
RB	171	49.9			94	6	5	u/s trap	
RB	172	49.7			94	5	26	d/s trap	
RB	176	47.2	m-ripe		94	6	1	u/s trap	
RB	177	50.4		5	94	6	1	u/s trap	
RB	178	56.5	f-ripe		94	5	27	d/s trap	tail clip
RB	178	50.7		4	94	6	5	u/s trap	
RB	179				94	5	21	u/s trap	
RB	190		m-ripe		94	5	21	u/s trap	
RB	193	8			94	5	26	d/s trap	
RB	194	76			94	6	1	u/s trap	no age scale resorbed
RB	196				94	5	21	u/s trap	
RB	202	84.6			94	6	7	u/s trap	
RB	205	92			94	6	2	u/s trap	
RB	209	75.1		3	94	5	27	u/s trap	
RB	218				94	5	21	u/s trap	
RB	220	85			94	5	23	u/s trap	
RB	224	102.9	f-ripe		94	6	3	u/s trap	
RB	227	117.4	f-ripe		94	6	6	u/s trap	pink tag # 1264
RB	231	114			94	5	19	u/s trap	
RB	234	113	m-ripe		94	5	23	u/s trap	
RB	234	119.9	m-ripe		94	6	3	u/s trap	
RB	235	109.3	f-spent		94	5	27	d/s trap	
RB	237	142			94	5	21	u/s trap	
RB	237	113	f-ripe		94	5	22	d/s trap	
RB	238	128.8			94	6	1	u/s trap	
RB	241	114		5	94	5	22	u/s trap	
RB	241	135.6	f-ripe		94	6	2	u/s trap	
RB	243	199			94	5	19	u/s trap	
RB	245	114			94	5	22	u/s trap	
RB	247	199			94	5	21	u/s trap	
RB	247	143.5	f-ripe		94	6	3	u/s trap	
RB	248	142	f		94	5	23	u/s trap	
RB	248	140.9	f-s.o.		94	5	26	d/s trap	
RB	249	142	f		94	5	23	u/s trap	
RB	249	148.2	f-ripe		94	6	3	u/s trap	
RB	250		f-ripe		94	5	25	u/s trap	no weights...dead batteries

SUCHONA CREEK FENCE OPERATIONS, 1994									
SPECIES	LENGTH	WEIGHT	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
CODE	mm	gms							
RB	250	158.5	r-ripe		94	5	30	u/s trap	
RB	250	153.8	m-ripe		94	6	1	u/s trap	
RB	252	114			94	5	23	d/s trap	
RB	252	158.8			94	6	9	u/s trap	
RB	254	170			94	5	21	u/s trap	
RB	254	142	f		94	5	23	u/s trap	
RB	254	142	f		94	5	23	u/s trap	
RB	254	142			94	5	24	u/s trap	
RB	254	165.3	f-maturing		94	5	29	u/s trap	pink tag # 1254
RB	254	165.3			94	6	1	u/s trap	recapture of pink tag # 1254
RB	256	178.2			94	5	28	u/s trap	pink tag # 1253
RB	256	178.2	f-p.spent		94	5	29	d/s trap	recapture of pink tag # 1253
RB	257	170	f		94	5	21	u/s trap	
RB	257	153	f-spent		94	5	27	d/s trap	pink tag # 1198
RB	258				94	5	21	u/s trap	
RB	259	170			94	5	19	u/s trap	pink tag # 1175
RB	259	167.3			94	5	25	u/s trap	pink tag # 1186
RB	259	156.2	f-spent		94	6	6	d/s trap	pink tag # 1263
RB	260	227			94	5	19	u/s trap	pink tag # 1176
RB	262	142			94	5	22	d/s trap	
RB	262	153.4			94	5	30	d/s trap	pink tag #1257
RB	265	174.3	f-spent		94	6	2	d/s trap	pink tag #1261
RB	266	142	f		94	5	23	d/s trap	
RB	267				94	5	21	u/s trap	
RB	269	199	f		94	5	23	d/s trap	
RB	269	172.9			94	5	26	d/s trap	pink tag # 1189
RB	271	166.1			94	5	26	d/s trap	pink tag # 1193
RB	272	199			94	5	19	u/s trap	pink tag # 1177
RB	272	210.2	f-ripe		94	6	5	u/s trap	pink tag #1262
RB	273	171.5	f-spent		94	5	28	d/s trap	pink tag # 1185
RB	274	170	f		94	5	23	u/s trap	pink tag # 1184
RB	275	195.6	f-mature		94	5	31	u/s trap	pink tak # 1259
RB	276	114			94	5	22	u/s trap	pink tag # 1181
RB	276	177.4	f-spent		94	5	31	d/s trap	
RB	278	426	m-ripe		94	5	19	u/s trap	pink tag # 1179
RB	279	246.6	f-ripe		94	5	26	u/s trap	pink tag # 1188
RB	279	187	f-spent		94	5	27	d/s trap	pink tag # 1197
RB	279	199.3	f-spent		94	5	29	d/s trap	pink tag # 1255
RB	280		f-spent		94	5	25	d/s trap	no weights...dead batteries
RB	281	142	f		94	5	22	d/s trap	pink tag # 1183
RB	283	233			94	5	29	u/s trap	pink tag #1256
RB	283	195.6	f-spent		94	6	1	d/s trap	pink tag #1260
RB	286				94	5	21	u/s trap	
RB	288	199	f		94	5	23	u/s trap	
RB	294	512			94	5	19	u/s trap	pink tag # 1178
RB	294	170	f		94	5	23	d/s trap	
RB	294				94	5	25	d/s trap	no weights...dead batteries
RB	295		f		94	5	25	u/s trap	no weights...dead batteries
RB	295	287.2	f-ripe		94	5	27	u/s trap	pink tag # 1199
RB	297	224.1	f-s.o.		94	5	26	d/s trap	pink tag # 1192
RB	297	253.4	f-ripe		94	5	27	u/s trap	pink tag # 1196
RB	298	227	m-ripe		94	5	23	u/s trap	
RB	298	231.3	f-s.o.		94	5	25	d/s trap	
RB	298	251.9			94	5	30	d/s trap	
RB	300	227	f-ripe		94	5	23	u/s trap	
RB	300	240	m-s.o.		94	5	26	d/s trap	pink tag # 1191
RB	307	230.5	f-spent		94	5	28	d/s trap	pink tag # 1250
RB	309	284	f-ripe		94	5	21	u/s trap	
RB	311				94	5	24	u/s trap	
RB	323	267.2			94	5	26	d/s trap	pink tag # 1190
RB	328	318.9			94	5	26	d/s trap	pink tag # 1195
RB	333	369	f-ripe		94	5	21	u/s trap	
RB	340	312.9	f-s.o.		94	5	26	d/s trap	pink tag # 1194
RB	343	582	m-ripe		94	5	19	u/s trap	pink tag # 1180
RB	343	341	f		94	5	21	u/s trap	

APPENDIX II

(Sylvester Creek Fish Data)

SYLVESTER CREEK FENCE OPERATIONS, 1994.									
SPECIES CODE	LENGTH mm	WEIGHT g	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
BB	179	31.6			94	5	28	u/s trap	
BB	197	37.2			94	6	10	u/s trap	
BB	239	60.3			94	5	28	u/s trap	
BB	257	79			94	5	28	u/s trap	
DV	164	37			94	6	8	d/s trap	
DV	180	66.6			94	6	4	d/s trap	
DV	180	53.7			94	6	8	d/s trap	
DV	203	76.3			94	6	9	d/s trap	
DV	218	106.1			94	6	5	d/s trap	
DV	222	99.7			94	6	4	d/s trap	
DV	319				94	6	4	u/s trap	orange tag # 2700 ..no age sample
DV	368	567			94	5	31	u/s trap	orange tag #2701
LNC	74	4.8			94	6	6	d/s trap	trap mort
LNC	74	6.5			94	6	9	d/s trap	crinkle back
LNC	74	4.8			94	6	11	d/s trap	
LNC	75	5.4			94	6	9	d/s trap	
LNC	75	6.2			94	6	11	d/s trap	crinkle back
LNC	76	5.6			94	6	7	d/s trap	
LNC	76	4.8			94	6	11	d/s trap	
LNC	76	5.6			94	6	13	d/s trap	
LNC	77	5.5			94	6	4	d/s trap	
LNC	78	6.6	f-ripe		94	6	8	d/s trap	
LNC	79	6.3			94	6	6	d/s trap	
LNC	79	6.1			94	6	11	d/s trap	
LNC	80	6.3			94	6	13	d/s trap	
LNC	81	6.6			94	6	11	d/s trap	
LNC	81	6.7			94	6	11	d/s trap	
LNC	81	5.3			94	6	13	d/s trap	
LNC	82	7.1			94	6	6	d/s trap	
LNC	82	7.5			94	6	7	d/s trap	
LNC	82	7.3			94	6	7	d/s trap	
LNC	82	6.1			94	6	8	d/s trap	
LNC	82	7.7			94	6	9	d/s trap	
LNC	82	6.4			94	6	11	d/s trap	
LNC	83	6.1			94	6	4	d/s trap	
LNC	83	7.2			94	6	10	d/s trap	
LNC	83	8.4			94	6	10	d/s trap	
LNC	83	7.4			94	6	11	d/s trap	
LNC	84	8.3			94	6	7	d/s trap	
LNC	84	8.7			94	6	11	d/s trap	crinkle back
LNC	84	7.3			94	6	11	d/s trap	
LNC	84	7.4			94	6	11	d/s trap	
LNC	84	6.9			94	6	12	d/s trap	
LNC	85	9.4			94	6	7	d/s trap	
LNC	85	8.2			94	6	8	d/s trap	
LNC	85	7.1			94	6	9	d/s trap	
LNC	86	8			94	6	10	d/s trap	
LNC	87	8.7			94	6	7	d/s trap	
LNC	87	8.5			94	6	9	d/s trap	
LNC	87	8.2			94	6	10	d/s trap	
LNC	87	8.4			94	6	11	d/s trap	
LNC	87	8.1			94	6	11	d/s trap	
LNC	87	7.7			94	6	11	d/s trap	
LNC	88	9.2			94	6	9	d/s trap	
LNC	88	9.3			94	6	9	d/s trap	
LNC	88	8			94	6	9	d/s trap	
LNC	88	8.4			94	6	11	d/s trap	
LNC	88	10			94	6	11	d/s trap	
LNC	89	8.6			94	6	6	d/s trap	
LNC	89	8.4			94	6	9	d/s trap	
LNC	89	7.6			94	6	11	d/s trap	
LNC	89	8.2			94	6	11	d/s trap	
LNC	90	9.3			94	6	5	d/s trap	
LNC	90	9			94	6	11	d/s trap	

SYLVESTER CREEK FENCE OPERATIONS, 1994.									
SPECIES CODE	LENGTH mm	WEIGHT g	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
LNC	90	8.7			94	6	11	d/s trap	
LNC	91	9.8			94	6	5	d/s trap	
LNC	91	11.4			94	6	6	d/s trap	
LNC	91	9.7			94	6	7	d/s trap	
LNC	92	8.4			94	6	11	d/s trap	
LNC	93	11.6			94	6	12	d/s trap	
LNC	94	10.9			94	6	6	d/s trap	
LNC	94	11.9			94	6	10	d/s trap	
LNC	94	10.8			94	6	11	d/s trap	
LNC	95	11.2			94	6	7	d/s trap	
LNC	95	12.5			94	6	7	d/s trap	
LNC	95	11.3			94	6	10	d/s trap	
LNC	95	9.9			94	6	11	d/s trap	
LNC	95	12.5			94	6	11	d/s trap	
LNC	95	10.6			94	6	11	d/s trap	
LNC	95	10.6			94	6	13	d/s trap	
LNC	95	9.5			94	6	13	d/s trap	
LNC	97	12			94	6	6	d/s trap	
LNC	97	12.3	f-ripe		94	6	8	d/s trap	
LNC	98	13.5			94	6	7	d/s trap	
LNC	98	11.9			94	6	9	d/s trap	
LNC	98	12.3			94	6	11	d/s trap	
LNC	99	12.5			94	6	9	d/s trap	
LNC	100	13.9			94	6	11	d/s trap	
LNC	104	14.2			94	6	9	d/s trap	
LNC	104	13.5			94	6	11	d/s trap	
LNC	105	17.1			94	6	7	d/s trap	
LNC	105	17.4			94	6	9	d/s trap	
LNC	105	15			94	6	10	d/s trap	
LNC	105	12.9			94	6	11	d/s trap	
LNC	105	15.2			94	6	11	d/s trap	
LNC	105	16.5			94	6	12	d/s trap	
LNC	106	15.4			94	6	9	d/s trap	
LNC	106	14.1			94	6	11	d/s trap	
LNC	106	13.5			94	6	11	d/s trap	
LNC	106	19.8			94	6	12	d/s trap	
LNC	107	17.3	f-ripe		94	6	8	d/s trap	
LNC	108	15.2	f-ripe		94	6	8	d/s trap	
LNC	108	17.2			94	6	11	d/s trap	
LNC	108	16.9			94	6	11	d/s trap	
LNC	108	16.5			94	6	12	d/s trap	
LNC	110	17.2			94	6	6	d/s trap	
LNC	110	18.2			94	6	6	d/s trap	
LNC	110	17.5	f-ripe		94	6	8	d/s trap	
LNC	110	14			94	6	13	d/s trap	
LNC	111	13.2			94	6	11	d/s trap	Sacrificed for proper id. sample
LNC	111	16.6	f-ripe		94	6	8	d/s trap	
LNC	113	19.5			94	6	13	d/s trap	
LNC	113	18.6			94	6	13	d/s trap	
LNC	115	19.5			94	6	12	d/s trap	
LNC	116	21.6			94	6	11	d/s trap	
LNC	116	20			94	6	12	d/s trap	
LNC	118	20.4			94	6	11	d/s trap	Sacrificed for proper id. sample, f-ripe
LNC	122	25.2			94	6	11	d/s trap	
LNC	124	25.3			94	6	9	d/s trap	
MW	61	2.8			94	6	5	d/s trap	mort
MW	64	2.2			94	6	7	d/s trap	fence mort
MW	65	2.6			94	6	7	d/s trap	fence mort
MW	67	3			94	6	6	d/s trap	fence mort
MW	67	2.4			94	6	7	d/s trap	fence mort
MW	67	2.4			94	6	7	d/s trap	
MW	68	3			94	6	6	d/s trap	
MW	69	3.1			94	6	6	d/s trap	fence mort
MW	71	3.3			94	6	7	d/s trap	fence mort

SYLVESTER CREEK FENCE OPERATIONS, 1994									
SPECIES CODE	LENGTH mm	WEIGHT g.	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
MW	71	3.4			94	6	7	d/s trap	fence mort
MW	72	4			94	6	5	d/s trap	mort
MW	72	3.7			94	6	7	d/s trap	fence mort
MW	72	2.8			94	6	13	d/s trap	
MW	73	3.8			94	6	6	d/s trap	fence mort
MW	73	3.8			94	6	6	d/s trap	fence mort
MW	73	3			94	6	10	d/s trap	
MW	74	3.7			94	6	4	d/s trap	
MW	74	3.4			94	6	6	d/s trap	
MW	74	4.2			94	6	6	d/s trap	fence mort
MW	74	3.5			94	6	7	d/s trap	
MW	74	3.4			94	6	11	d/s trap	
MW	75	3.3			94	6	6	d/s trap	fence mort
MW	75	3.9			94	6	11	d/s trap	
MW	75	3.7			94	6	12	d/s trap	
MW	75	4			94	6	13	d/s trap	
MW	76	4.6			94	6	7	d/s trap	trap mort
MW	76	4.3			94	6	10	d/s trap	
MW	76	4.1			94	6	11	d/s trap	
MW	77	4.3			94	6	5	d/s trap	mort
MW	77	3.7			94	6	12	d/s trap	
MW	78	4.3			94	6	7	d/s trap	fence mort
MW	79	4			94	6	4	d/s trap	
MW	80	4.6			94	6	5	d/s trap	mort
MW	80	4.4			94	6	6	d/s trap	trap mort
MW	80	4.6			94	6	12	d/s trap	
MW	81	5			94	6	5	d/s trap	mort
MW	81	4.1			94	6	11	d/s trap	
MW	83	5			94	6	4	d/s trap	
MW	87	5.8			94	6	13	d/s trap	
MW	89	5.9			94	6	13	d/s trap	
MW	129	20.2			94	6	9	d/s trap	
MW	136	22.5			94	6	11	u/s trap	
MW	146	28.5			94	6	11	u/s trap	
MW	149	33.7			94	5	29	u/s trap	
MW	151	35.1			94	5	30	u/s trap	
MW	154	35.3			94	6	9	d/s trap	
MW	155	31.4			94	6	4	u/s trap	
MW	155	36.4			94	6	11	u/s trap	
MW	156	36.7			94	5	30	u/s trap	
MW	157	36.2			94	6	1	d/s trap	
MW	157	37.2			94	6	5	u/s trap	
MW	160	38.3			94	5	30	u/s trap	
MW	164	42.5			94	6	4	u/s trap	
MW	165	41.5			94	5	29	u/s trap	
MW	165	42.7			94	5	30	u/s trap	
MW	165	42.5			94	6	3	u/s trap	
MW	165	40			94	6	3	u/s trap	
MW	165	44.1			94	6	4	u/s trap	mort.
MW	169	42.2			94	5	29	u/s trap	
MW	172	48			94	5	30	u/s trap	
MW	172	53.2			94	6	4	u/s trap	
MW	176	45.1			94	5	30	u/s trap	
MW	176	49.2			94	6	4	u/s trap	
MW	180	54.8			94	6	12	u/s trap	
MW	182	63.3			94	6	13	u/s trap	
MW	183	61.3			94	5	30	u/s trap	
MW	183	52.9			94	6	1	u/s trap	
MW	183	59.8			94	6	3	u/s trap	
MW	185	58.5			94	5	29	u/s trap	
MW	185	59.7			94	6	3	u/s trap	
MW	186	65.1			94	6	4	u/s trap	
MW	188	63.4			94	5	30	u/s trap	
MW	189	72.1			94	6	3	u/s trap	

SYLVESTER CREEK FENCE OPERATIONS, 1994.									
SPECIES CODE	LENGTH mm	WEIGHT g.	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
MW	190	69.8			94	5	30	u/s trap	
MW	190	58.7			94	6	3	u/s trap	
MW	191	61.1			94	6	1	u/s trap	
MW	193	67			94	6	4	u/s trap	
MW	195	64.6			94	5	31	d/s trap	
MW	195	72.3			94	6	11	u/s trap	
MW	196	68.6			94	5	31	u/s trap	
MW	199	82.6			94	5	29	u/s trap	
MW	199	87.7			94	6	4	u/s trap	
MW	201	92.1			94	6	3	u/s trap	
MW	204	75.6			94	5	30	u/s trap	
MW	206	77.1			94	5	30	u/s trap	
MW	209	92.3			94	5	30	u/s trap	
MW	209	93.2			94	5	31	u/s trap	
MW	210	91.4			94	5	29	u/s trap	
MW	210	100.1			94	5	31	u/s trap	
MW	211	100			94	5	29	u/s trap	
MW	211	94.1			94	5	29	u/s trap	
MW	211	89.8			94	6	4	u/s trap	
MW	211	92			94	6	4	u/s trap	
MW	213	88.8			94	6	1	u/s trap	
MW	216	114.9			94	5	31	u/s trap	
MW	218	94.7			94	5	29	u/s trap	
MW	219	111.7			94	5	30	u/s trap	
MW	222	126.6			94	5	31	u/s trap	
MW	223	103.9			94	5	30	u/s trap	
MW	223	122.6			94	6	1	u/s trap	
MW	229	175.6			94	6	1	d/s trap	
MW	231	128.7			94	6	1	u/s trap	
MW	231	115.9			94	6	3	u/s trap	
MW	232	119.5			94	5	29	u/s trap	
MW	233	119.2			94	5	31	u/s trap	
MW	233	121.1			94	6	4	u/s trap	
MW	235	133.9			94	6	4	u/s trap	
MW	236	123.3			94	5	30	u/s trap	
MW	242	141.5			94	5	30	u/s trap	
MW	244	139.9			94	5	31	u/s trap	
MW	245	156.4			94	5	31	u/s trap	
MW	247	152.1			94	5	29	u/s trap	
MW	250	144			94	5	30	u/s trap	
MW	258	198.6			94	5	30	u/s trap	
MW	260	155.9			94	6	1	u/s trap	
MW	188	61.8			94	6	10	d/s trap	
NSC	82	7.7			94	6	4	d/s trap	
NSC	84	8.4			94	6	4	d/s trap	
NSC	87	8.4			94	6	4	d/s trap	
NSC	90	9.1			94	6	1	d/s trap	
NSC	111	17.3			94	6	4	d/s trap	
RB	82	6.2			94	6	7	d/s trap	
RB	88	7			94	6	6	d/s trap	fence mort ***no scales taken***
RB	106	11.7			94	6	10	u/s trap	
RB	107	12.7			94	6	13	d/s trap	
RB	112	14.2			94	6	6	d/s trap	
RB	118	15			94	6	7	d/s trap	
RB	118	15.4			94	6	13	d/s trap	
RB	123	18.9			94	6	13	d/s trap	
RB	124	20.2			94	6	11	d/s trap	
RB	126	20.7			94	6	11	d/s trap	
RB	131	22.1			94	6	5	d/s trap	
RB	134	24.8			94	6	12	u/s trap	M-ripe
RB	135	23.1			94	6	13	d/s trap	
RB	135	27.1			94	6	13	d/s trap	
RB	136	26			94	6	8	d/s trap	
RB	136	23.4			94	6	13	d/s trap	

SYLVESTER CREEK FENCE OPERATIONS, 1994									
SPECIES CODE	LENGTH mm	WEIGHT g	SEX	AGE	YR	MO	DY	DIRECTION	COMMENTS
RB	138	22.9			94	6	11	d/s trap	
RB	140	26.3			94	6	13	d/s trap	
RB	141	28.8			94	6	10	d/s trap	
RB	142	28	m-ripe		94	6	3	u/s trap	
RB	142	28.7			94	6	9	d/s trap	
RB	143	28.5			94	6	9	d/s trap	
RB	143	28.4			94	6	13	d/s trap	
RB	144	28.7			94	6	9	d/s trap	
RB	144	29.5			94	6	12	d/s trap	
RB	145	30.7	m-ripe		94	6	8	u/s trap	
RB	146	30.1			94	6	11	d/s trap	
RB	148	34.5			94	5	30	u/s trap	
RB	149	32.8			94	6	9	d/s trap	
RB	149	33			94	6	9	d/s trap	
RB	150	32.9			94	6	12	d/s trap	
RB	150	35.3			94	6	13	d/s trap	
RB	152	37	m-mature		94	6	4	d/s trap	
RB	152	33.8			94	6	6	d/s trap	
RB	153	36.9			94	6	12	u/s trap	
RB	155	35.9			94	6	9	d/s trap	
RB	156	40.6			94	6	9	d/s trap	
RB	159	44.4			94	6	13	d/s trap	
RB	160	38.8			94	6	8	d/s trap	
RB	161	44.8	m-ripe		94	6	8	d/s trap	
RB	162	46.2	m-mature		94	6	4	d/s trap	
RB	163	43.6			94	6	8	d/s trap	
RB	163	42.8			94	6	12	d/s trap	
RB	165	47.5			94	6	11	u/s trap	R-male
RB	166	44.3			94	6	7	d/s trap	
RB	167	46.9			94	6	12	d/s trap	
RB	170	59.3	m-ripe		94	5	29	u/s trap	
RB	174	52.8			94	5	30	u/s trap	
RB	177	52.4			94	6	10	u/s trap	F-ripe
RB	179	56.1			94	6	9	d/s trap	
RB	231	120.7			94	6	12	u/s trap	F-ripe
RB	236	140.1			94	6	7	d/s trap	
RB	250	157.5			94	6	7	u/s trap	orange tag #2704
RB	253	160.9	f-ripe		94	6	5	u/s trap	orange tag #2703
RB	262	187	f-ripe		94	6	5	u/s trap	orange tag #2702
RB	267	182.4			94	6	13	d/s trap	orange tag 02711, F-ripe
RB	270	214.7			94	5	28	u/s trap	pink tag #1251
RB	270	211.9			94	6	10	d/s trap	F-ripe, orange tag # 02707
RB	275	181.1			94	6	13	d/s trap	orange tag 02710, F-ripe
RB	279	202			94	6	12	d/s trap	F-ripe orange tag 02708
RB	290	206.2			94	6	12	d/s trap	F-ripe orange tag 02709
RB	300	258.2	f-spent		94	6	9	d/s trap	orange floy tag #02706
RB	305	238.4			94	6	13	d/s trap	orange tag 02712, F-ripe
RB	333	340			94	5	28	u/s trap	pink tag #1252